

## CLAIMS

1. A mobile station (200) for use in a communication system having a base station (100), the mobile station (200) comprising:
  - 5 receiver means (220) for receiving from the base station (100) a first downlink signal,
  - measurement means (250) for measuring a parameter of the received first downlink signal;
  - power control means (230) for generating first power control commands in response to the measured parameter; and
  - 10 transmitter means (240) for transmitting the first power control commands to the base station (100);
  - wherein the measurement means (250) is adapted to measure the parameter of the first downlink signal while first downlink signal is modulated with non-predetermined data values and is subjected to transmit power control in accordance with the first power control commands.
2. A mobile station (200) as claimed in claim 1, wherein the receiver means (220) is adapted to receive from the base station a second, non-power controlled downlink signal and to derive a channel estimate from the second downlink signal, and to employ the channel estimate to decode the first downlink signal.
3. A mobile station as claimed in claim 1 or 2, wherein the power control means (230) is adapted to decode the non-predetermined data values comprising second power control commands and to adjust the transmit power of the transmitter means in accordance with the decoded second power control commands.
- 30 4. A radio communication system comprising a base station (100) and at least one mobile station (200) as claimed in any of claims 1,2, or 3.

5. A radio communication system as claimed in claim 4, the base station (100) comprising a receiver means (120) for receiving the first power control commands and a transmitter means (140) for transmitting the first downlink signal modulated with non-predetermined data values and subjected to transmit power control in accordance with the first transmit power control commands.

6. A method of operating a communication system comprising a base station (100) and at least one mobile station (200), comprising at the base station (100), receiving first power control commands transmitted by the mobile station (200) and transmitting a first downlink signal modulated with non-predetermined data values and subjected to transmit power control in accordance with the first power control commands, and at the mobile station (200), receiving the first downlink signal, measuring a parameter of the first downlink signal modulated with the non-predetermined data values, generating the first power control commands in response to the measured parameter, and transmitting the first power control commands.

7. A method as claimed in claim 6, comprising at the base station (100), transmitting a second downlink signal at a constant power level, and at the mobile station (200), receiving the second signal, deriving a channel estimate from the second downlink signal, and employing the channel estimate to decode the first downlink signal.

8. A method as claimed in claim 6 or 7, comprising at the base station (100), arranging for the non-predetermined data values to comprise second power control commands and, at the mobile station (200), decoding the second power control commands and adjusting the transmit power of the mobile station (200) in accordance with the second power control commands.